EXAMPLE

Date of RFP April 1, 200X	New Jersey Department of Transportation Bureau of Research **Scope and Request for Proposals** **2001-2002 Program**	*Closing Date* **July 1, 200X**

Project _____, Traffic Data Collection, Analysis, and Forecasting for Mechanistic Pavement Design

(All Proposals must be prepared in accordance with NJDOT's *Information and Instructions for Preparing Proposals*)

1. **RESEARCH PROBLEM STATEMENTAND BACKGROUND**
   [Clearly define the problem and provide any relevant Background]

Traffic information is one of the key data elements required for the design and analysis of pavement structures. The number of equivalent single axle loads (ESALs) has been used in most pavement structural design procedures, including the 1993 AASHTO Guide for Design of Pavement Structures. Equivalency factors are used to determine the number of ESALs. These factors are based on the Present Serviceability Index (PSI) concept and are dependent on the pavement type and structure. Also, studies have shown that these factors are influenced by pavement condition, distress type, failure mode, and other parameters.

Recently, the AASHTO Joint Task Force on Pavements initiated an effort to develop an improved guide for the design of pavement structures by the year 2002. This effort, being undertaken under NJDOT Project 1-37A, *Development of the 2002 Guide for the Design of New and Rehabilitated Pavement Structures* (2002 Guide), will provide engineers with practical and realistic pavement-design procedures that use existing mechanistic-empirical principles. The mechanistic-based distress prediction models used in the 2002 Guide will require the input of specific data for each axle type and axle load group. Recognizing the constraints on resources available in some state and local highway agencies for traffic data collection, the 2002 Guide will allow for various levels of traffic data collection and analysis. Without clear information on needed traffic data collection and forecasting, effective use of the 2002 Guide cannot be assured.

Research is needed to develop guidelines for traffic data collection and forecasting to ensure state highway agencies' readiness for the implementation of the 2002 Guide.

2. **OBJECTIVES**

[Provide a narrative and list of the objectives of the study]

The objective of this study is to provide a framework for agencies to collect traffic data for the new pavement design procedure.

The objectives of this research are to

(1) develop guidelines for collecting and forecasting traffic data to formulate load spectra for use in procedures proposed in the 2002 Guide (see Special Note A) and

(2) provide guidance on selecting, installing, and operating traffic data collection equipment and handling traffic data.

3. **Tasks**

[Provide a listing of appropriate general tasks divided into phases based on types of work (e.g., laboratory, field) or by year (e.g., year 1, year 2) or other appropriate milestones]

Accomplishment of the project objectives will require at least the following tasks.

The following general task descriptions are intended to provide a framework for conducting the research. The NJDOT is seeking the insights of proposers on how best to achieve the research objectives. Proposers are expected to describe a research effort that can realistically be accomplished within the constraints of contract time. Proposals must present the proposers' current thinking in sufficient detail to demonstrate their understanding of the problem and the soundness of their approach for conducting the required research. The tasks that follow outline a general approach and should not limit the proposer's concepts.

PHASE I – Literature Search

Conduct a comprehensive literature search of the current state of the practice.

PHASE II – Research Approach

[Work may be divided into phases (e.g., Laboratory, Field or Year 1, Year 2) as necessary to clarify tasks]

Task 1. Identify the traffic data elements (e.g., axle configuration, tire pressure, and precision levels) needed for the different levels of traffic data inputs.

Task 2. For each of the data elements identified in Task 1, develop a data collection plan for each level of traffic data inputs proposed.The plan shall also address the use of site-specific, functional classification, and system-wide data; estimation of static load spectra; and other load characteristics that will be required to implement the design process contained in the 2002 Guide.

Task 3. Develop guidelines for selection, installation, and operation of traffic data collection equipment for each level of traffic data input. The guidelines shall address equipment

specifications, installation considerations, calibration procedures, the means for determining tire configuration on each axle weighed (e.g., single and dual), field measurement of tire contact pressure, and other related factors. The guidelines shall also address data handling (e.g., data processing, quality assurance, and storage).

Task 4. Submit a monthly, quarterly, interim and final report that documents the entire research effort.

4. Implementation and Training Plan
[Include implementation requirements including specification development, demonstrations, and training]

The PI must meet with the following units to develop a staged implementation plan and provide training for the use of the developed traffic collection software.

5. Deliverables: [List of minimum deliverables necessary to complete the project]

Literature Search:	Presentation of Summary of Literature Search Results Discussion to Support and Refine the Project Tasks
Task 1	*Technical Memorandum of traffic elements*
Task 2	*Detailed data collection plan for elements in Task 1*
Task 3	*Guidelines* for selection, installation, and operation of traffic data collection equipment
Task 4	*Quarterly progress reports, and Final Report*

6. Contract Time: [Check one]

❑ Not to exceed 12 months, which includes 3 months for review and revision of the final report

❑ Not to exceed 24 months, which includes 2 months for review and approval of the interim report and 3 months for review and revision of the final report

7. Research Project Manager:
Research Project Customer:

8. Authorization to Begin Work: January 200X--estimated
9. Deadline

Proposals (10 single-bound copies) are due not later than 4:00 p.m. on July 1, 200X.
This is a firm deadline, and extensions simply are not granted.

10. Delivery Instructions:

For private, paid messenger services such as Federal Express, DHL, UPS, etc., or for

hand-carried deliveries:

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